

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 10/662,619 Confirmation No.: 9762
Applicant: Hyun Jin Kim et al.
Filed: September 15, 2003
Title: GOLF BALLS INCORPORATING PEPTIZERS
AND METHOD OF MANUFACTURE

Examiner: Raeann Gordon
Art Unit: 3711

Docket No.: 0EKM-104792
Date: June __, 2005

DECLARATION OF HYUN JIN KIM UNDER 37 C.F.R. § 1.131

Assistant Commissioner for Patents
Washington, DC 20231

Sir:

I, Hyun Jin Kim, residing in Carlsbad, California, declare as follows:

1. I am one of the named inventors of the invention described and claimed in the above-identified patent application.
2. Attached as Exhibit A is a copy of a document entitled "Idea Disclosure Form," which describes an invention identified as "Idea #: B03-10" and entitled "Golf Ball Composition." The original document bears a date earlier than May 14, 2003, but that date has been masked out on Exhibit A.
3. Attached Exhibit A describes the invention that is claimed in the above-identified patent application. The following Table correlates pending claims 1-3, 5, 10-21, and 23-24 with the subject matter set forth in Exhibit A:

Selected Claims of Appl. No. 10/662,619**Description in Idea Disclosure Form (Exhibit A)**

Claim 1: A golf ball including a composition comprising:

Title of the Invention in Exhibit A is golf ball composition;

an unsaturated polymer;

**Section II.3. describes suitable unsaturated polymers;
Section III. sets forth a table identifying several exemplary compositions, all of them containing an unsaturated polymer;**

a cross-linking agent comprising a peroxide

**Section II.4. describes suitable peroxide cross-linking agents;
Section III sets forth a table identifying several exemplary compositions, all of them containing Varox 231XL, a peroxide;**

a peptizer; and

**Section II.2. describes suitable peptizers;
Section II sets forth a table identifying several exemplary compositions, all of them containing either or both of cross-linking agents SR416 and SR638;**

an accelerator.

Section II.1. specifies that the composition can further comprise an accelerator.

Claim 2: The golf ball according to claim 1, wherein the composition includes greater than about 0.1 part by weight of the peptizer per 100 parts by weight of the unsaturated polymer.

Section III sets forth a table identifying several exemplary compositions, all of them containing either 1.2 or 1.5 parts by weight of the peptizer per 100 parts by weight of the unsaturated polymer.

Claim 3: The golf ball according to claim 1, wherein the composition includes greater than about 0.5 part by weight of the peptizer per 100 parts by weight of the unsaturated polymer.

Section III sets forth a table identifying several exemplary compositions, all of them containing either 1.2 or 1.5 parts by weight of the peptizer per 100 parts by weight of the unsaturated polymer.

Claim 5: The golf ball according to claim 1, wherein the peptizer is selected from the group consisting of pentachlorothiophenol, a metal salt of pentachlorothiophenol, a non-metal salt of pentachlorothiophenol, and dibenzamido diphenyldisulfide.

Section II.2. specifies suitable peptizers to include "pentachlorothiophenol" and "o,o'-dibenzamido-diphenyl disulfide (Noctizer SS)."

Claim 10: The golf ball according to claim 1, wherein the composition includes from about 0.05 part to about 5 parts by weight of the cross-linking agent per 100 parts by weight of the unsaturated polymer.

Section III sets forth a table identifying several exemplary compositions, all of them containing 1 part by weight of the peroxide cross-linking agent per 100 parts by weight of the unsaturated polymer.

Claim 11: The golf ball according to claim 1, wherein the composition includes from about 0.2 part to about 3 parts by weight of the cross-linking agent per 100 parts by weight of the unsaturated polymer.

Section III sets forth a table identifying several exemplary compositions, all of them containing 1 part by weight of the peroxide cross-linking agent per 100 parts by weight of the unsaturated polymer.

Claim 12: The golf ball according to claim 1, wherein the composition includes from about 0.5 part to about 1.5 parts by weight of the cross-linking agent per 100 parts by weight of the unsaturated polymer.

Section III sets forth a table identifying several exemplary compositions, all of them containing 1 part by weight of the peroxide cross-linking agent per 100 parts by weight of the unsaturated polymer.

Claim 13: The golf ball according to claim 1, wherein the unsaturated polymer is selected from the group consisting of 1,2-polybutadiene, cis-1,4-polybutadiene, trans-1,4-polybutadiene, cis-polyisoprene, trans-polyisoprene, polychloroprene, polybutylene, styrene-butadiene rubber, block copolymer of styrene and butadiene, block copolymer of styrene and isoprene, nitrile rubber, silicone rubber, polyurethane, and mixtures thereof.

Section II.3. specifies suitable unsaturated polymers to include 1,2-polybutadiene; cis-1,4-polybutadiene; trans-1,4-polybutadiene; cis-polyisoprene; trans-polyisoprene; polychloroprene; polyisobutylene; styrene-butadiene rubber; styrene-butadiene-styrene block copolymer; styrene-isoprene-styrene block copolymer; nitrile rubber; silicone rubber; millable polyurethane; and mixtures of those polymers.

Claim 14: The golf ball according to claim 1, wherein the composition further comprises an ingredient selected from the group consisting of UV stabilizers, photo stabilizers, antioxidants, colorants, dispersants, mold releasing agents, processing aids, and fillers.

Section II.1. specifies the composition to optionally include anti-oxidants, UV-stabilizers, weight adjusting fillers; colorants; and processing aids.

Claim 15: The golf ball according to claim 14, wherein the ingredient is a filler that adjusts a density of the composition.

Section II.1. specifies the composition to optionally include weight adjusting fillers; Section III sets forth a table identifying several exemplary compositions, all of them containing a zinc oxide filler.

Claim 16: The golf ball according to claim 14, wherein the ingredient is a filler selected from the group consisting of zinc oxide, tungsten, and barium sulfate.

Section II.1. specifies the composition to optionally include weight adjusting fillers; Section III sets forth a table identifying several exemplary compositions, all of them containing a zinc oxide filler.

Claim 17: The golf ball according to claim 14, wherein the ingredient is a filler and the composition includes from about 10 parts to about 80 parts by weight of the filler per 100 parts by weight of the unsaturated polymer.

Section II.1. specifies the composition to optionally include weight adjusting fillers; Section III sets forth a table identifying several exemplary compositions, all of them containing 17.25 parts by weight of a zinc oxide filler per 100 parts by weight of the unsaturated polymer.

Claim 18: The golf ball according to claim 1, wherein the composition further comprises a compound selected from the group consisting of an unsaturated carboxylic acid, a metal salt of the unsaturated carboxylic acid, and mixtures thereof.

Section III sets forth a table identifying several exemplary compositions, all of them containing SR416 and SR638, which are zinc diacrylates.

Claim 19: The golf ball according to claim 18, wherein the composition includes

Section III sets forth a table identifying several exemplary compositions, all of them containing

from about 20 parts to about 60 parts by weight of the compound per 100 parts by weight of the unsaturated polymer.

SR416 and/or SR638, which are zinc diacrylates, in a combined amount of 35 parts by weight per 100 parts of the unsaturated polymer.

Claim 20: The golf ball according to claim 1, further comprising:
a core; and
a cover layer over the core;
wherein at least one of the core and the cover layer includes the composition.

Section II.1.f specifies that the composition can be used to make 2-piece, three-piece, and multilayered golf balls.

Claim 21: The golf ball according to claim 20, wherein the core includes:
an inner core; and
an outer core encasing the inner core.

Section II.1.g specifies that the core can have more than two layers.

Claim 23: The golf ball according to claim 20, further comprising a layer of rubber thread located between the core and the cover layer.

Section II.1.f specifies that the golf ball can be with or without incorporation of a wound layer.

Claim 24: The golf ball according to claim 1, further comprising:
a core;
at least one intermediate layer over the core; and
a cover layer over the outermost intermediate layer;
wherein at least one of the core, the at least one intermediate layer, and the cover layer includes the composition.

Section II.1. specifies that the golf ball can include a core, a cover, and at least one intermediate layer.

4. Remaining claims 4, 6-9, 22, and 25-41 recite subject matter either that is substantially the same as that of the claims set forth in the Table above or that would have been readily apparent to those skilled in the art having access to the information set forth in Exhibit A.

5. New independent claim 58 of this patent application defines a golf ball that includes a composition comprising an unsaturated polymer, a cross-linking agent comprising a peroxide, and a non-metal salt of an organosulfur compound. Further, new claim 59 defines such organosulfur compound to be 2-mercaptobenzothiazole, and new claim 60 defines such non-metal salt to be a cyclohexylamine salt of 2-mercaptobenzothiazole. The inventors conceived the invention defined by claims 58-60 prior to May 14, 2003. As corroboration, I attach as Exhibit B a copy of an e-mail message from Hong Jeon, one of the named inventors, setting forth our desire to procure Nocceler M60 (a cyclohexylamine salt of 2-mercaptobenzothiazole). The "research purpose" set forth in the e-mail was to combine the Nocceler M60 material with an unsaturated polymer and a peroxide cross-linking agent.

6. All statements made herein of my own knowledge are true, and all statements made herein on information and belief are believed to be true. Further, these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Respectfully submitted,


Hyun Jin Kim

Dated: June 13, 2005

Enclosures